WHAT IS CLAIMED IS:

1. A compound of the formula I:

$$\begin{array}{c|c}
R^1 & O & (R^3)_{1-9} \\
R^2 & N & W - X - N & G & NH \\
R^2 & A - B & R^4 & Y & O
\end{array}$$
I

5 wherein:

A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

10 R¹ is selected from:

- 1) H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃₋₆ cycloalkyl, and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,
 - b) C₃₋₆ cycloalkyl,
 - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
 - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
 - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
 - f) $(F)_pC_{1-3}$ alkyl,

15

	g) h) i) j)	halogen, OR^4 . $O(CH_2)_s OR^4$. CO_2R^4 .
5	k)	(CO)NR ¹⁰ R ¹¹ ,
	1)	$O(CO)NR^{10}R^{11}$,
	m)	$N(R^4)(CO)NR^{10}R^{11}$
	n)	$N(R^{10})(CO)R^{11}$.
	0)	$N(R^{10})(CO)OR^{11}$
10	p)	$SO_2NR^{10}R^{11}$, $N(R^{10})SO_2R^{11}$,
	q) · r)	$S(O)_{m}R^{10}$,
	s)	CN,
	t)	$NR^{10}R^{11}$,
15	u)	$N(R^{10})(CO)NR^4R^{11}$, and
	v) ·	O(CO)R ⁴ ; and
20	substituents i a) b)	r heteroaryl, unsubstituted or substituted with one or more ndependently selected from: C ₁₋₆ alkyl, C ₃₋₆ cycloalkyl,
	c)	aryl, unsubstituted or substituted with 1-5 substituents where
	tne su d)	bstituents are independently selected from R ⁴ , heteroaryl, unsubstituted or substituted with 1-5 substituents
25	•	the substituents are independently selected from R ⁴ , e)
		insubstituted or substituted with 1-5 substituents where
	•	ndependently selected from R ⁴ , f) (F) _p C ₁₋₃ alkyl,
	g)	halogen,
	h)	OR ⁴ ,
30	i)	O(CH2)sOR4
	j)	CO_2R^4 .
	k)	$(CO)NR^{10}R^{11}$,
	1)	$O(CO)NR^{10}R^{11}$,
	m)	$N(R^4)(CO)NR^{10}R^{11}$,

	n)	$N(R^{10})(CO)R^{11}$,	
	o)	$N(R^{10})(CO)OR^{11}$,	
	p)	$SO_2NR^{10}R^{11}$,	
	q)	$N(R^{10}) SO_2 R^{11}$.	
5	r)	$S(O)_{m}R^{10}$,	
	s)	CN,	
	t)	$NR^{10}R^{11}$,	
	u)	$N(R^{10})(CO)NR^4R^{11}$, and	
	v)	O(CO)R4; and	
10	•		
	R ² is independently		
	1) H, C	${ m C_0\text{-}C_6}$ alkyl, ${ m C_2\text{-}C_6}$ alkenyl, ${ m C_2\text{-}C_6}$ alkynyl, ${ m C_3\text{-}6}$ cycloalkyl and he	terocycle,
	unsu	ibstituted or substituted with one or more substituents independentl	y selected
	from		
15	a)	C ₁₋₆ alkyl,	
	b)	C ₃₋₆ cycloalkyl,	
	c)	aryl, unsubstituted or substituted with 1-5 substituents where	
	the s	substituents are independently selected from R ⁴ ,	
	d)	heteroaryl, unsubstituted or substituted with 1-5 substituents	
20	whe	ere the substituents are independently selected from R ⁴ ,	
	e)	heterocycle, unsubstituted or substituted with 1-5 substituents	
		ere the substituents are independently selected from R ⁴ ,	f)
	(F) _p C ₁₋₃ al	kyl,	
	g)	halogen,	
25	h)	OR ⁴ ,	
	i)	$O(CH_2)_SOR_4$	
	j)	CO_2R^4 ,	
	k)	$(CO)NR^{10}R^{11}$.	
	1)	O(CO)NR ¹⁰ R ¹¹ ,	
30	m)	$N(R^4)(CO)NR^{10}R^{11}$	
	n)	$N(R^{10})(CO)R^{11}$,	
	o)	$N(R^{10})(CO)OR^{11}$.	
	p)	$SO_2NR^{10}R^{11}$,	
	q)	$N(R^{10}) SO_2R^{11}$.	

		r)	$S(O)_{m}R^{10}$,
		s)	CN,
		t)	$NR^{10}R^{11}$,
		u)	$N(R^{10})(CO)NR^4R^{11}$, and
5		v)	O(CO)R ⁴ ; and
	2)	aryl c	or heteroaryl, unsubstituted or substituted with one or more substituents
		-	endently selected from:
		a)	C ₁₋₆ alkyl,
10		b)	C ₃₋₆ cycloalkyl,
		c)	aryl, unsubstituted or substituted with 1-5 substituents where
		the su	ibstituents are independently selected from R ⁴ ,
		d)	heteroaryl, unsubstituted or substituted with 1-5 substituents
		where	e the substituents are independently selected from R ⁴ ,
15		e)	heterocycle, unsubstituted or substituted with 1-5 substituents
			e the substituents are independently selected from R ⁴ ,
		f)	$(F)_pC_{1-3}$ alkyl,
		g)	halogen,
		h)	OR ⁴ ,
20		i)	$O(CH_2)_sOR^4$
		j)	CO_2R^4
		k)	$(CO)NR^{10}R^{11}$,
		1)	$O(CO)NR^{10}R^{11}$
		m)	$N(R^4)(CO)NR^{10}R^{11}$,
25		n)	$N(R^{10})(CO)R^{11}$,
		0)	$N(R^{10})(CO)OR^{11}$.
		p)	$SO_2NR^{10}R^{11}$.
		q)	$N(R^{10}) SO_2R^{11}$.
		r)	$S(O)_{m}R^{10}$,
30		s)	CN,
		t)	$NR^{10}R^{11}$,
		u)	$N(R^{10})(CO)NR^4R^{11}$, and
		v)	O(CO)R ⁴ ;

e)

where

or, any two independent R² on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolyl, oxazolyl, oxazolinyl, imidazolyl, imidazolidinyl, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrrolinyl, morpholinyl, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidinyl, pyrrolidinyl, piperidinyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

R¹⁰ and R¹¹ are independently selected from: H, C₁₋₆ alkyl, (F)_pC₁₋₆ alkyl, C₃₋₆ cycloalkyl, aryl, heteroaryl, and benzyl, unsubstituted or substituted with halogen, hydroxy or C₁-C₆ alkoxy, where R¹⁰ and R¹¹ may be joined together to form a ring selected from: azetidinyl, pyrrolidinyl, piperidinyl, piperazinyl, or morpholinyl, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴;

15 R⁴ is independently selected from: H, C₁₋₆ alkyl, (F)_pC₁₋₆ alkyl, C₃₋₆ cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C₁-C₆ alkoxy;

W is O, NR^4 or $C(R^4)_2$;

20 X is C or S;

Y is O, (R⁴)₂, NCN, NSO₂CH₃, NCONH₂, or Y is O₂ when X is S;

R⁶ is independently selected from H and:

25

30

5

10

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,

heterocycle, unsubstituted or substituted with 1-5 substituents \$w\$ the substituents are independently selected from $$R^4$$, \$f\$ $$(F)_pC_{1-3}$$ alkyl,

g) halogen,

PCT/US2004/011254

WO 2004/091514

20

25

```
OR^4
                    h)
                           O(CH2)sOR4
                    i)
                            CO_2R^4
                    j)
                            (CO)NR^{10}R^{11},
                    k)
                            O(CO)NR^{10}R^{11},
 5
                    1)
                            N(R^4)(CO)NR^{10}R^{11},
                    m)
                            N(R^{10})(CO)R^{11}
                    n)
                            N(R^{10})(CO)OR^{11},
                    0)
                            SO2NR10R11,
                    p)
                            N(R10) SO2R11,
10
                    q)
                            S(O)_{m}R^{10},
                    r)
                            CN,
                    s)
                            NR^{10}R^{11}
                    t)
                            N(R^{10})(CO)NR^4R^{11}, and
                    u)
                            O(CO)R^4;
15
                     v)
```

G-J is selected from: N, N-C(R⁵)₂, C=C(R⁵), C=N; C(R⁵), C(R⁵)-C(R⁵)₂, C(R⁵)-C(R⁵)₂, C=C(R⁵)-C(R⁵)₂, C(R⁵)-C(R⁵)

 R^5 is independently selected from H, substituted or unsubstituted C_1 - C_3 alkyl, CN, OR^4 , $N(R^4)_2$ and CO_2R^4 ;

 R^3 is independently selected from H, substituted or unsubstituted C_1 - C_3 alkyl, F, CN and CO_2R^4 ;

```
p is 0 to 2q+1, for a substituent with q carbons;

30 m is 0, 1 or 2;

n is 0 or 1;

s is 1, 2 or 3;
```

and pharmaceutically acceptable salts and individual diastereomers thereof.

2. The compound of claim 1 of the formula:

wherein:

5

15

A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

10 n is 0 or 1;

Y is O, (R4)2, NCN, NSO2CH3 or NCONH2,

and pharmaceutically acceptable salts and individual stereoisomers thereof.

3. The compound of claim 1 of the formula:

$$R^{2}$$
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{5}
 R^{6}
 R^{1}
 R^{2}
 R^{2}
 R^{2}
 R^{4}
 R^{4}
 R^{5}
 R^{5}
 R^{5}
 R^{6}
 R^{6}

wherein:

20 A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$; and

n is 0 or 1;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

25

4. The compound of claim 1 of the formula:

$$R^{1}$$
 O $(R^{3})_{1-9}$ J NH R^{2} R^{2} R^{4} O O

- 5 and pharmaceutically acceptable salts and individual stereoisomers thereof.
 - 5. The compound of claim 1 of the formula:

10 wherein:

A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

6. The compound of claim 1 of the formula:

15

$$R^{2}$$
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}
 R^{4}

wherein:

A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

- 20 and pharmaceutically acceptable salts and individual stereoisomers thereof.
 - 7. The compound of claim 1, wherein:

R¹ is selected from:

5

10

15

25

30

- 1) H, C₁-C₆ alkyl, C₃₋₆ cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,
 - b) C₃₋₆ cycloalkyl,
 - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
 - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴, e)

heterocycle, unsubstituted or substituted with 1-5 substituents the substituents are independently selected from R^4 , f) (F)pC1-3 alkyl,

- g) halogen,
- h) OR^4 .
- i) $O(CH_2)_sOR^4$
- j) CO_2R^4
- k) CN,
- $NR^{10}R^{11}$, and
- 20 m) $O(CO)R^4$; and
 - 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,
 - b) C₃₋₆ cycloalkyl,
 - c) $(F)_pC_{1-3}$ alkyl,
 - d) halogen,
 - e) OR^{4}
 - f) CO_2R^4
 - g) $(CO)NR^{10}R^{11}$.
 - h) $SO_2NR^{10}R^{11}$,
 - i) $N(R^{10}) SO_2R^{11}$.
 - j) $S(O)_m R^4$,
 - k) CN,
 - $NR^{10}R^{11}$, and

m) $O(CO)R^4$;

R² is selected from:

5

10

15

20

25

30

- 1) H, C₁-C₆ alkyl, C₂-C₆ alkynyl, C₃₋₆ cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,
 - b) C₃₋₆ cycloalkyl,
 - c) aryl, unsubstituted or substituted with 1-5 sustituents where the substituents are independently selected from R⁴,
 - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴, e)

heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R^4 , f) (F)_pC1-3 alkyl,

- g) halogen,
- h) OR⁴,
 - i) $O(CH_2)_SOR^4$
 - j) CO_2R^4
 - k) $S(O)_m R^4$,
 - 1) CN,
 - m) $NR^{10}R^{11}$, and
 - n) $O(CO)R^4$; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one more substituents independently selected from:
- a) C₁₋₆ alkyl,
 - b) C₃₋₆ cycloalkyl,
 - c) $(F)_pC_{1-3}$ alkyl,
 - d) halogen,
 - e) OR^4 ,
 - f) CO_2R^4
 - g) $(CO)NR^{10}R^{11}$,
 - h) $SO_2NR^{10}R^{11}$,
 - i) $N(R^{10}) SO_2R^{11}$,
 - j) $S(O)_m R^4$,

- k) CN,
- 1) NR¹⁰R¹¹, and
- m) $O(CO)R^4$;

or, any two independent R² on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolinyl, oxazolyl, oxazolinyl, imidazolyl, imidazolinyl, ipyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrrolinyl, morpholinyl, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidinyl, pyrrolidinyl, piperidinyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

G-J is selected from:

20

25

N, N-C(R⁵)₂, C=C(R⁵), C=N, C=C(R⁵)-C(R⁵), C(R⁵)-C(R⁵)=C(R⁵), N-C(R⁵)₂-C(R⁵)₂ and N-C(R⁵)=C(R⁵);

R⁶ is independently selected from H and:

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,
- c) $(F)_pC_{1-3}$ alkyl,
- d) halogen,
- e) OR^4 ,
- f) CO_2R^4
- g) $(CO)NR^{10}R^{11}$,
- h) $SO_2NR^{10}R^{11}$
- i) $N(R^{10}) SO_2R^{11}$,
- 1) 11(11) 50211
- $S(O)_m R^4$
- k) CN,
- l) $NR^{10}R^{11}$, and
- 30 m) O(CO)R4;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

8. The compound of claim 7 of the formula:

$$R^{1}$$
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{4}
 R^{4}

wherein:

5 A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

n is 0 or 1;

Y is O, (R4)2, NCN, NSO2CH3 or NCONH2,

and pharmaceutically acceptable salts and individual stereoisomers thereof.

9. The compound of claim 7 of the formula:

15

10

wherein:

A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

20 n is 0 or 1;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

10. The compound of claim 7 of the formula:

$$R^{1}$$
 O $(R^{3})_{1-9}$ J NH R^{2} R^{2} R^{4} O O

and pharmaceutically acceptable salts and individual stereoisomers thereof.

11. The compound of claim 7 of the formula:

wherein:

10 A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

12. The compound of claim 7 of the formula:

$$R^{2}$$
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{4}
 R^{4}
 R^{4}
 R^{2}
 R^{4}
 R^{4}
 R^{5}
 R^{6}
 R^{7}
 R^{7}
 R^{1}
 R^{9}
 R^{1}
 R^{9}
 R^{1}
 R^{9}
 R^{1}
 R^{9}
 R^{1}
 R^{1}
 R^{2}
 R^{4}
 R^{4}
 R^{5}
 R^{5}

15

20

5

wherein:

A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

13. The compound of claim 1, wherein:

R is selected from:

PCT/US2004/011254

	1)	H, C	1-C6 alkyl, C3-6 cycloalkyl and heterocycle, unsubstituted or substituted
		with	one or more substituents independently selected from:
		a)	C ₁₋₆ alkyl,
		b)	C ₃₋₆ cycloalkyl,
5		c)	phenyl, unsubstituted or substituted with 1-5 substituents
			where the substituents are independently selected from R ⁴ ,
		d)	heteroaryl, unsubstituted or substituted with 1-5 substituents
			where the substituents are independently selected from R ⁴ ,
		and v	where heteroaryl is selected from:
10			imidazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine,
			pyridine, pyrimidine, and thiazole;
		e)	heterocycle, unsubstituted or substituted with 1-5 substituents
		wher	e the substituents are independently selected from R ⁴ ,
	and v	where h	eterocycle is selected from:
15			azetidine, dioxane, dioxolane, morpholine, oxetane, piperazine,
			piperidine, pyrrolidine, tetrahydrofuran, and tetrahydropyran;
		f)	$(F)_pC_{1-3}$ alkyl,
		g)	halogen,
		h)	OR ⁴ ,
20		i)	$O(CH_2)_sOR_4$
		j)	CO_2R^4 .
		k)	CN,
		1)	$NR^{10}R^{11}$, and
		m)	O(CO)R ⁴ ; and
25			
	2)	aryl	or heteroaryl, selected from:
		pher	nyl, imidazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine
		pyrii	midine, and thiazole, unsubstituted or substituted with one or more
		subs	tituents independently selected from:
30			
		a)	C ₁₋₆ alkyl,
		b)	C3-6 cycloalkyl,

 $(F)_pC_{1-3}$ alkyl,

halogen,

c) d)

PCT/US2004/011254 WO 2004/091514

5		e) f) g) h) i) j) k) l) m)	OR^4 . CO_2R^4 . $(CO)NR^{10}R^{11}$. $SO_2NR^{10}R^{11}$. $N(R^{10}) SO_2R^{11}$. $S(O)_mR^4$, CN , $NR^{10}R^{11}$, and $O(CO)R^4$;
10	R ² is selec	stad from	
	Nº 18 Selec	ieu nom.	·
	1) H,	C ₀ -C ₆ alk	cyl, C ₃₋₆ cycloalkyl and heterocycle, unsubstituted or substituted with one or
			substituents independently selected from:
15		a)	C ₁₋₆ alkyl,
		b)	C ₃₋₆ cycloalkyl,
		c)	phenyl, unsubstituted or substituted with 1-5 substituents
		18	where the substituents are independently selected from R ⁴ ,
20		d)	heteroaryl, unsubstituted or substituted with 1-5 substituents
20		p4 a	where the substituents are independently selected from nd where heteroaryl is selected from:
		K ', a	benzimidazole, benzothiophene, furan, imidazole, indole,
			isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine,
			pyrimidine, pyrrole, thiazole, thiophene, and triazole;
25		e)	heterocycle, unsubstituted or substituted with 1-5 substituents
		•	e the substituents are independently selected from R ⁴ , and
	wl	nere hetero	cycle is selected from:
			azetidine, imidazolidine, imidazoline, isoxazoline, isoxazolidine,
			morpholine, oxazoline, oxazolidine, oxetane, pyrazolidine,
30			pyrazoline, pyrroline, tetrahydrofuran, tetrahydropyran, thiazoline,
			and thiazolidine;
		f)	(F) _p C ₁₋₃ alkyl,
		g)	halogen,
		h)	OR^4 .

- i) $O(CH_2)_sOR_1^4$
- j) CO_2R^4 ,
- k) CN,
- $NR^{10}R^{11}$, and
- m) $O(CO)R^4$; and
- 2) aryl or heteroaryl, selected from:

phenyl, benzimidazole, benzothiophene, furan, imidazole, indole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, thiophene, and triazole;

unsubstituted or substituted with one or more substituents independently selected from:

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,
- c) $(F)_pC_{1-3}$ alkyl,
- d) halogen,
- e) OR^4 .
- f) CO_2R^4 .
- g) $(CO)NR^{10}R^{11}$,
- h) $SO_2NR^{10}R^{11}$,
- i) $N(R^{10}) SO_2R^{11}$.
- j) $S(O)_m R^4$,
- k) CN,
- l) $NR^{10}R^{11}$, and
- m) $O(CO)R^4$;

or, any two independent R² on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolyl, oxazolyl, oxazolyl, oxazolinyl, imidazolyl, imidazolidinyl, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrrolinyl, morpholinyl, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidinyl, pyrrolidinyl, piperidinyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

5

15

10

20

25

30

 R^{10} and R^{11} are independently selected from: H, C_{1-6} alkyl, (F)_p C_{1-6} alkyl, C_{3-6} cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C_{1} - C_{6} alkoxy, where R^{10} and R^{11} may be joined together to form a ring selected from: azetidinyl, pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R^{4} ;

 R^4 is independently selected from: H, C_{1-6} alkyl, $(F)_pC_{1-6}$ alkyl, C_{3-6} cycloalkyl, aryl, heteroaryl and phenyl, unsubstituted or substituted with hydroxy or C_{1} - C_{6} alkoxy;

W is NR^4 or $C(R^4)_2$;

5

10

20

30

G-J is selected from:

15 N, N-C(R⁵)₂, C=C(R⁵), C=N, C=C(R⁵)-C(R⁵)₂, C(R⁵)-C(R⁵)=C(R⁵), N-C(R⁵)₂-C(R⁵)₂, and N-C(R⁵)=C(R⁵);

R⁶ is independently selected from H and:

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,
 - c) $(F)_pC_{1-3}$ alkyl,
 - d) halogen,
 - e) OR^4 ,
 - f) CO_2R^4 ,
- $(CO)NR^{10}R^{11}$,
 - h) $SO_2NR^{10}R^{11}$,
 - i) $N(R^{10}) SO_2R^{11}$,
 - $S(O)_m R^4$
 - k) CN,
 - $NR^{10}R^{11}$, and
 - m) $O(CO)R^4$;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

14. The compound of claim 13 of the formula:

5 wherein:

A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

n is 0 or 1;

Y is O, (R⁴)₂, NCN, NSO₂CH₃ or NCONH₂,

- and pharmaceutically acceptable salts and individual stereoisomers thereof.
 - 15. The compound of claim 13 of the formula:

15

wherein:

A is a bond, $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

B is $(C(R^2)_2)_n$;

n is 0 or 1;

- and pharmaceutically acceptable salts and individual stereoisomers thereof.
 - 16. The compound of claim 13 of the formula:

$$R^{2}$$
 W^{-C} $W^$

and pharmaceutically acceptable salts and individual stereoisomers thereof.

17. The compound of claim 13 of the formula:

wherein:

10 A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

18. The compound of claim 13 of the formula:

15

5

wherein:

A is $C(R^2)_2$, O, $S(O)_m$ or NR^2 ;

and pharmaceutically acceptable salts and individual stereoisomers thereof.

20

19. A compound of the formula:

$$\begin{array}{c|c}
R^1 \\
O \\
R^2 \\
R^4 \\
R^4 \\
V
\end{array}$$

$$\begin{array}{c|c}
(R^3)_{1-9} \\
G \\
NH \\
O\end{array}$$

wherein:

10

15

20

25

B is independently $(C(R^2)_2)_n$; 5

R is selected from:

- H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃₋₆ cycloalkyl, and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,
 - b) C3-6 cycloalkyl,
 - aryl, unsubstituted or substituted with 1-5 substituents where c) the substituents are independently selected from R4,
 - heteroaryl, unsubstituted or substituted with 1-5 substituents d) where the substituents are independently selected from R⁴,
 - heterocycle, unsubstituted or substituted with 1-5 substituents e) where the substituents are independently selected from R⁴,
 - f) $(F)_pC_{1-3}$ alkyl,
 - halogen, g)
 - OR4, h)
 - O(CH₂)_s OR⁴. i)
 - CO_2R^4 j)
 - $(CO)NR^{10}R^{11}$, k)
 - O(CO)NR¹⁰R¹¹, 1)
 - $N(R^4)(CO)NR^{10}R^{11}$ m)
 - $N(R^{10})(CO)R^{11}$, n)
 - $N(R^{10})(CO)OR^{11}$. 0)
 - SO2NR¹⁰R¹¹, p)

```
N(R^{10}) SO_2R^{11},
                        q)
                                  S(O)_{m}R^{10},
                        r)
                                  CN,
                        s)
                                  NR<sup>10</sup>R<sup>11</sup>,
                        t)
                         u)
                                  N(R<sup>10</sup>)(CO)NR<sup>4</sup>R<sup>11</sup>, and,
 5
                                  O(CO)R4; and
                         v)
                         aryl or heteroaryl, unsubstituted or substituted with one or more
               2)
                substituents independently selected from:
                                  C<sub>1-6</sub> alkyl,
10
                         a)
                                  C3-6 cycloalkyl,
                         b)
                                  aryl, unsubstituted or substituted with 1-5 substituents where
                         c)
                         the substituents are independently selected from R<sup>4</sup>,
                                  heteroaryl, unsubstituted or substituted with 1-5 substituents
                         where the substituents are independently selected from R<sup>4</sup>,
                                                                                                                    e)
15
                heterocycle, unsubstituted or substituted with 1-5 substituents
                                                                                                                    where
       the substituents are independently selected from R4,
                                                                                                  (F)_pC_{1-3} alkyl,
                                                                                         f)
                                  halogen,
                         g)
                                  OR4.
                         h)
20
                         i)
                                  O(CH2)<sub>s</sub>OR<sup>4</sup>,
                                  CO_2R^4.
                         j)
                                  (CO)NR^{10}R^{11}.
                         k)
                                  O(CO)NR10R11,
                         1)
                                  N(R^4)(CO)NR^{10}R^{11},
                         m)
                                  N(R^{10})(CO)R^{11},
25
                         n)
                                  N(R^{10})(CO)OR^{11}.
                         0)
                                  SO2NR<sup>10</sup>R<sup>11</sup>,
                         p)
                                  N(R^{10}) SO_2R^{11}.
                          q)
                                  S(O)_{m}R^{10},
                         r)
                                   CN,
30
                          s)
                                  NR<sup>10</sup>R<sup>11</sup>,
                          t)
                                  N(R<sup>10</sup>)(CO)NR<sup>4</sup>R<sup>11</sup>, and,
                          u)
                                   O(CO)R4; and
                          v)
```

R² is independently selected from:

5

10

20

25

30

1) H, C₀-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃₋₆ cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴, f) (F)_pC₁₋₃ alkyl,
- g) halogen,
 - h) OR^4 .
 - i) $O(CH_2)_{s}OR_{s}^{4}$
 - j) CO_2R^4 ,
 - k) $(CO)NR^{10}R^{11}$,
 - 1) $O(CO)NR^{10}R^{11}$,
 - m) $N(R^4)(CO)NR^{10}R^{11}$,
 - n) $N(R^{10})(CO)R^{11}$.
 - o) $N(R^{10})(CO)OR^{11}$.
 - p) $SO_2NR^{10}R^{11}$,
 - q) $N(R^{10}) SO_2R^{11}$,
 - r) $S(O)_{m}R^{10}$,
 - s) CN,
 - $NR^{10}R^{11}$,
 - u) $N(R^{10})(CO)NR^4R^{11}$, and,
 - v) $O(CO)R^4$; and
 - 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
 - a) C₁₋₆ alkyl,

- b) C₃₋₆ cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,
- f) $(F)_{D}C_{1-3}$ alkyl,
- g) halogen,
- h) OR⁴,
- i) $O(CH_2)_sOR_4$
- j) CO_2R^4 ,
- k) $(CO)NR^{10}R^{11}$,
- 1) $O(CO)NR^{10}R^{11}$,
- m) $N(R^4)(CO)NR^{10}R^{11}$.
- n) $N(R^{10})(CO)R^{11}$.
- o) $N(R^{10})(CO)OR^{11}$.
- p) $SO_2NR^{10}R^{11}$,
- q) $N(R^{10}) SO_2R^{11}$,
- r) $S(O)_m R^{10}$,
- s) CN,
- $NR^{10}R^{11}$,
- u) $N(R^{10})(CO)NR^4R^{11}$, and,
- v) $O(CO)R^4$;

25

30

5

10

15

20

or, any two independent R² on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolinyl, oxazolyl, oxazolinyl, imidazolyl, imidazolidinyl, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrrolinyl, morpholinyl, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidinyl, pyrrolidinyl, piperidinyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

 R^{10} and R^{11} are independently selected from: H, $C_{1\text{-}6}$ alkyl, (F) $_pC_{1\text{-}6}$ alkyl, $C_{3\text{-}6}$ cycloalkyl, aryl, heteroaryl, and benzyl, unsubstituted or substituted with halogen, hydroxy or $C_1\text{-}C_6$ alkoxy, where R^{10} and R^{11} may be joined together to form a ring selected from: azetidinyl, pyrrolidinyl, piperidinyl, piperazinyl, or morpholinyl, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R^4 ;

 R^4 is independently selected from: H, C_{1-6} alkyl, $(F)_pC_{1-6}$ alkyl, C_{3-6} cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C_1 - C_6 alkoxy;

10 W is O, NR^4 or $C(R^4)_2$;

X is C or S;

Y is O, (R⁴)₂, NCN, NSO₂CH₃, NCONH₂, or Y is O₂ when X is S;

15

20

25

30

5

R⁶ is independently selected from H and:

- a) C₁₋₆ alkyl,
- b) C₃₋₆ cycloalkyl,

c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴,

d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R⁴, e)

heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R^4 , f) (F)_pC₁₋₃ alkyl,

- g) halogen,
- h) OR^4 .
- i) $O(CH_2)_sOR^4$
- j) CO_2R^4 ,
- k) $(CO)NR^{10}R^{11}$,
- 1) $O(CO)NR^{10}R^{11}$,
- m) $N(R^4)(CO)NR^{10}R^{11}$.
- n) $N(R^{10})(CO)R^{11}$,

- o) $N(R^{10})(CO)OR^{11}$,
- p) $SO_2NR^{10}R^{11}$.
- q) $N(R^{10}) SO_2R^{11}$.
- r) $S(O)_m R^{10}$,
- s) CN,
- t) $NR^{10}R^{11}$,
- u) $N(R^{10})(CO)NR^4R^{11}$, and,
- v) O(CO)R4; and
- G-J is selected from: N, N-C(R⁵)₂, C=C(R⁵), C=N; C(R⁵), C(R⁵)-C(R⁵)₂, C(R⁵)-C(R⁵)₂-C(R⁵)₂, C=C(R⁵)-C(R⁵)₂, C(R⁵)-C(R⁵)=C(R⁵), C(R⁵)-C(R⁵)₂-N(R⁵), C=C(R⁵)-N(R⁵), C(R⁵)-N(R⁵), C(R⁵)-N(R⁵)-N(R⁵)-N(R⁵), C=N-N(R⁵), N-C(R⁵)₂-C(R⁵)₂, N-C(R⁵)=C(R⁵), N-C(R⁵)₂-N(R⁵), N-C(R⁵)=N, N-N(R⁵)-C(R⁵)₂ and N-N=C(R⁵);
 - Q, T, U and V are each independently a C or N wherein at least one but no more than three of Q, T, U and V are N, and wherein when any of Q, T, U, or V is C it unsubstituted or substituted where the substituents are independently selected from R⁶;
- 20 R⁵ is independently selected from H, substituted or unsubstituted C₁-C₃ alkyl, CN, OR⁴, N(R⁴)₂ and CO₂R⁴;
 - R^3 is independently selected from H, substituted or unsubstituted C₁-C₃ alkyl, F, CN and CO_2R^4 ;

25

5

15

p is 0 to 2q+1, for a substituent with q carbons;

m is 0, 1 or 2;

n is 0 or 1;

s is 1, 2 or 3;

30

and pharmaceutically acceptable salts and individual diastereomers thereof.

20. A compound selected from:

PCT/US2004/011254

- 5 and pharmaceutically acceptable salts and individual diastereomers thereof.
 - 21. A pharmaceutical composition which comprises an inert carrier and the compound of Claim 1.
- 10 22. The use of the compound of Claim 1 for the preparation of a medicament useful in the treatment of headache, migraine or cluster headache.

0

15